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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date *23 March 2006*.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-14 are pending in this application.

Claim Objections

2.   The following claims are objected to because of the following informalities:

a. Claims 2-14 several instances of various variations "the communication

function", "the device" and "the function(s)" lack antecedent basis. For example,

claim 2 recites a first attribute information obtaining unit for obtaining attribute

information regarding *the communication function*".

b. Claims 6 and 12: "the combinations" of the preamble lacks antecedent basis.

c. Claims 8 and 9: "the third communication device b2" of the preambles and all

instances of "the second communication function" lack antecedent basis.

d. Claims 10 and 11: all instances of "the candidates" lack antecedent basis.

e. Claim 13: "the communication address" of the fourth limitation lacks

antecedent basis.

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

4.   Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

 For claim 6, it is unclear how the communications control device can receive evaluation

results from communication b1 at the communication device b1. .

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-5 and 7-11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Rekimoto, US 2005/0114646 (hereinafter Rekimoto), as applied to

claims 1 and 7, in view of Kawamura et al., US 2005/0050026 (hereinafter Kawamura).

For claim 1, Rekimoto discloses:

> A communication control device for communicating with a communication device
>
> b1 with a first communication function and communicating with a communication
>
> device a2 with a second communication function (Abstract), comprising:
>
> a first attribute information storage unit for storing attribute information regarding
>
> a third communication function of the communication device a2 ([0071], lines 5-6,

disclosure of storage section 60 of the telephone for storing various information;

[0098], lines 1-3, disclosure of telephone A receiving IP address of device A);

an accepting unit for accepting a request for communication from a user by

means of a communication device having a communication function other than

the first communication function and the second communication function ([0097],

lines 1-3, disclosure of user A requesting a third communication function by

pressing "a sharing button");

an attribute information transmission unit for transmitting attribute information

regarding the communication device a2 stored in the first attribute information

storage unit to the communication device b1 with the first communication function

based on the request accepted by the accepting unit ([0099], lines 1-3, disclosure

of telephone A transmitting IP address of device A to telephone B);

Rekimoto fails to explicitly disclose:

an attribute information receiving unit for receiving attribute information that

includes at least a communication address for a communication device b2 having

the third communication function from the communication device b1 after the

attribute information is transmitted by the attribute information transmission unit;

a first attribute notifying unit for notifying the communication device a2 with the

second communication function of the communication address obtained by the

attribute information receiving unit.

However, Kawamura discloses:

an attribute information receiving unit for receiving attribute information that

includes at least a communication address for a communication device b2 having

the third communication function from the communication device b1 after the

attribute information is transmitted by the attribute information transmission unit

([0043], lines 5-12, disclosure of home server, i.e. telephone of Rekimoto

reference, storing service function files of devices on network);

a first attribute notifying unit for notifying the communication device a2 with the

second communication function of the communication address obtained by the

attribute information receiving unit ([0105], lines 5-9, an appliance/user

requesting a service function from another device on network receives from the

home server a service description file and address of the device with desired

functionality).

Rekimoto and Kawamura are analogous art because both are from the field of sharing

device functionality over a network.

It would have been obvious to one skilled in the art at the time of the invention to

modify the teachings of Rekimoto with the teachings of Kawamura, because this

modification expands the functionality of the telephone apparatus taught by Rekimoto to

include a plurality of attached user devices, as well optimal combination of these

attached devices.

For claim 2, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 1, further comprising a first

attribute information obtaining unit for obtaining attribute information regarding

the communication function other than the first communication function and the

second communication function from at least one communication device with the

second communication function (Kawamura, [0043], lines 5-12, service function

files of devices contain information regarding functions of described device),

wherein:

the first attribute information storage unit stores the attribute information obtained

by the first attribute information obtaining unit (Rekimoto, [0071], lines 5-6,

disclosure of storage section 60 of the telephone for storing various information).

For claim 3, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 1, wherein the first attribute

information storage unit stores attribute information regarding the communication

function other than the first communication function and the second

communication function for each of a plurality of communication devices

(Kawamura, [0045], lines 3-7, disclosure that home server stores function

information for a plurality of devices), the device further comprising:

a first extraction unit for extracting at least one communication device including,

the communication device a2, stored in the first attribute information storage unit

as candidates based on the attribute information (Kawamura, [0073], lines 1-6,

disclosure of functional retrieval unit 13 extracting device candidates from storing

unit 2 based on a service request received by a user), and wherein

the attribute information transmission unit transmits attribute information

regarding the candidates extracted by the first extraction unit to the

communication device b1 with the first communication function (Kawamura,

[0084], lines 8-11, disclosure that transceiver unit 4 transmits list to appliance

that requested device functionality).

For claim 4, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 3, wherein:

the attribute information stored in the first attribute information storage unit

includes function information regarding the functions of the communication

devices (Rekimoto, [0071], lines 5-6, disclosure of storage section 60 of the

telephone for storing various information; Kawamura, [0045], lines 3-7);

the accepting unit accepts designation of one of the functions stored in the first

attribute information storage unit (Kawamura, [0060], lines 1-3, disclosure of

function retrieval unit searching for devices with functionality identical or similar to

that received in service request function from a user); and

the first extraction unit extracts the communication devices having the function

accepted by the accepting unit as the candidates (Kawamura, [0073], lines 1-6,

disclosure of functional retrieval unit 13 extracting device candidates from storing

unit 2 based on a service request received by a user).

For claim 5, the combination of Rekimoto and Kawamura discloses:

> A communication control device according to claim 3, wherein the attribute
>
> information receiving unit receives attribute information for at least one
>
> communication device having the communication function other than the first
>
> communication function and the second communication function, including the
>
> communication device b2, from the communication device b1 (Kawamura,
>
> [0043], lines 5-12, disclosure of home server storing service function files of
>
> devices on network), the device further comprising:
>
> a first determining unit for determining an optimal combination of the
>
> communication devices based on the attribute information of the candidates
>
> extracted by the first extraction unit and the attribute information received by the
>
> attribute information receiving unit (Kawamura, [0073], lines 6-9, disclosure of
>
> function retrieval unit compiling list of suitable candidates exhibiting functionality
>
> as requested by user/appliance), wherein
>
> the first attribute notifying unit will provide a communication address in
>
> accordance with the determination by the first determining unit (Kawamura,
>
> [0084], lines 1-5, disclosure of home server providing to designated devices the
>
> address and functionality of the of the candidates determined by retrieval unit).

For claim 7, Rekimoto discloses:

> A communication control device for communicating with a communication
>
> device a1 with a first communication function (Abstract), comprising:

a second attribute information storage unit for storing attribute information that includes at least a communication address for a third communication function of a communication device b2 different from the communication device a1 ([0071], lines 5-6, disclosure of storage section 60 of the telephone for storing various information; [0098], lines 1-3, disclosure of telephone receiving IP address of its attached device);

a request receiving unit for receiving attribute information regarding a communication device a2 having the third communication function from the communication device a1 ([0099], disclosure of telephone A transmitting IP address of device A to telephone B)

Rekimoto fails to explicitly disclose:

a response transmission unit for transmitting the attribute information that includes at least the communication address of the communication device b2 which is stored in the second attribute information storage unit to the communication device a1 with the first communication function, in response to the reception of the attribute information by the request receiving unit.

However, Kawamura discloses:

a response transmission unit for transmitting the attribute information that includes at least the communication address of the communication device b2 which is stored in the second attribute information storage unit to the communication device a1 with the first communication function, in response to the reception of the attribute information by the request receiving unit ([0105],

lines 5-9, An appliance/user requesting a service function from another device on

network receives from the home server a service description file and address of

the device with desired functionality)

Rekimoto and Kawamura are analogous art because both are from the field of sharing

device functionality over a network.

It would have been obvious to one skilled in the art at the time of the invention to

modify the teachings of Rekimoto with the teachings of Kawamura, because this

modification expands the functionality of the telephone apparatus taught by Rekimoto to

include a plurality of attached user devices, as well optimal combination of these

attached devices.

For claim 8, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 7, wherein the

communication control device is connected to the third communication device b2

with the second communication function (Rekimoto, [0053], lines 1-7, disclosure

of device B connected to telephone B), and the communication control device

further comprises:

a second attribute notifying unit for notifying the communication device b2 of a

communication address of the communication device a2 which is received by the

request receiving unit with the second communication function (Kawamura,

[0105], lines 5-9, An appliance/user requesting a service function from another

device on network receives from the home server a service description file and

address of the device with desired functionality).

For claim 9, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 7, wherein the

communication control device is connected to the third communication device b2

with the second communication function, the communication control device

further comprising:

an attribute information obtaining unit for obtaining attribute information on the

communication function other than the first communication function and the

second communication function from at least one communication device with the

second communication function (Kawamura, [0043], lines 5-12, service function

files of devices contain information regarding functions of described device),

wherein the second attribute information storage unit stores the attribute

information obtained by the attribute information obtaining unit ([0071], lines 5-6,

disclosure of storage section 60 of the telephone for storing various information;

[0098], lines 1-3, disclosure of telephone A receiving IP address of device A,

which by analogy telephone B receives IP address of device B).

For claim 10, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 7, wherein:

the second attribute information storage unit stores attribute information on the

communication function other than the first communication function and the

second communication function for each of a plurality of communication devices

(Kawamura, [0045], lines 3-7, disclosure that home server stores function

information for a plurality of devices); and

the request receiving unit receives attribute information regarding the

communication function other than the first communication function and the

second communication function for at least one communication device, including

the communication device a2 (Rekimoto, [0099], lines 1-3, disclosure of

telephone A transmitting IP address of device A to telephone B); and

the communication control device further comprising:

a second extraction unit for extracting at least one candidate for a communication

device which has the communication function other than the first communication

function and the second communication function, including the communication

device b2, based on the attribute information of the communication device

received by the request receiving unit (Kawamura, [0073], lines 1-6, disclosure of

functional retrieval unit 13 extracting device candidates from storing unit 2 based

on a service request received by a user), wherein

the response transmission unit transmits the attribute information of the

candidates extracted by the second extraction unit to the communication device

a1 with the first communication function (Kawamura, [0105], lines 5-9).

For claim 11, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 10, further comprising a

second determining unit for determining an optimal combination of the communication

devices based on the attribute information of the candidates extracted by the second

extraction unit and the attribute information of the communication devices received by

the request receiving unit (Kawamura, [0073], lines 6-9, disclosure of function retrieval

unit compiling list of suitable candidates exhibiting functionality as requested by

user/appliance).

For claim 12, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 11, wherein the second

determining unit evaluates all of the combinations of the candidates extracted by

the second extraction unit and the communication devices received by the

request receiving unit, receives evaluation results at the communication device

a1 from the communication device a1, and determines the optimal combination

of communication devices based on sums of both evaluation results (Kawamura,

[0073], lines 6-9, disclosure of function retrieval unit compiling list of suitable

candidates exhibiting functionality as requested by user/appliance).

For claim 13, Rekimoto discloses:

A communication control method executed by a communication control device for

communicating with a communication device b1 with a first communication

function and communicating with a communication device a2 with a second

communication function (Abstract), comprising:

a first attribute information storing step that stores attribute information regarding

a third communication function of the communication device a2 ([0071], lines 5-6,

disclosure of storage section 60 of the telephone for storing various information;

[0098], lines 1-3, disclosure of telephone A receiving IP address of device A);

an accepting step that accepts a request for communication from a user by

means of a communication device having a communication function other than

the first communication function and the second communication function ([0097],

lines 1-3, disclosure of user A requesting a third communication function by

pressing "a sharing button");

an attribute information transmission step that transmits attribute information of

the communication device a2 stored in the first attribute information storing step

to the communication device b1 with the first communication function based on

the request accepted in the accepting step ([0099], lines 1-3disclosure of

telephone A transmitting IP address of device A to telephone B)

Rekimoto fails to explicitly disclose:

an attribute information receiving step that receives attribute information that

includes at least the communication address for a communication device b2

having the third communication function from the communication device b1, after

the attribute information is transmitted in the attribute information transmission

step; and

a first attribute notifying step that notifies the communication device a2 of the

communication address obtained in the attribute information receiving step with

the second communication function.

However, Kawamura discloses:

an attribute information receiving step that receives attribute information that

includes at least the communication address for a communication device b2

having the third communication function from the communication device b1, after

the attribute information is transmitted in the attribute information transmission

step ([0043], lines 5-12, disclosure of home server, i.e. telephone of Rekimoto

reference, storing service function files of devices on network); and

a first attribute notifying step that notifies the communication device a2 of the

communication address obtained in the attribute information receiving step with

the second communication function ([0105], lines 5-9, An appliance/user

requesting a service function from another device on network receives from the

home server a service description file and address of the device with desired

functionality).

Rekimoto and Kawamura are analogous art because both are from the field of sharing

device functionality over a network.

It would have been obvious to one skilled in the art at the time of the invention to

modify the teachings of Rekimoto with the teachings of Kawamura, because this

modification expands the functionality of the telephone apparatus taught by Rekimoto to

include a plurality of attached user devices, as well optimal combination of these

attached devices.

For claim 14, Rekimoto discloses:

A communication control method executed by a communication control device for

communicating with a communication device a1 with a first communication function

(Abstract), comprising:

a second attribute information storing step that stores attribute information that

includes at least a communication address for a third communication function of

a communication device b2 different from the communication device a1 ([0071],

lines 5-6, disclosure of storage section 60 of the telephone for storing various

information; [0098], lines 1-3, disclosure of telephone receiving IP address of its

attached device);

a request receiving step that receives attribute information regarding a

communication device a2 having the third communication function from the

communication device a1 ([0099], lines 1-3, disclosure of telephone A

transmitting IP address of device A to telephone B); and

Rekimoto fails to explicitly disclose:

a response transmission step that transmits the attribute information that includes

at least the communication address of the communication device b2 which is

stored in the second attribute information storing step to the communication

device a1 with the first communication function, in response to reception of the

attribute information in the request receiving step.

However, Kawamura discloses:

a response transmission step that transmits the attribute information that includes

at least the communication address of the communication device b2 which is

stored in the second attribute information storing step to the communication

device a1 with the first communication function, in response to reception of the

attribute information in the request receiving step ([0105], lines 5-9, An

appliance/user requesting a service function from another device on network

receives from the home server a service description file and address of the

device with desired functionality).

Rekimoto and Kawamura are analogous art because both are from the field of sharing

device functionality over a network.

It would have been obvious to one skilled in the art at the time of the invention to

modify the teachings of Rekimoto with the teachings of Kawamura, because this

modification expands the functionality of the telephone apparatus taught by Rekimoto to

include a plurality of attached user devices, as well optimal combination of these

attached devices.

7.   Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Rekimoto, in view of Kawamura, and further in view of Chalon, US 7,213,070

(hereinafter Chalon).

For claim 6, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 5, wherein the first

determining unit evaluates all of the combinations of the candidates extracted by

the first extraction unit and the communication device received by the attribute

information receiving unit, receives evaluation results at the communication

device b1 from the communication device b1, and determines the optimal

combination of communication devices based on sums of both evaluation results

(Kawamura, [0073], lines 6-9, disclosure of function retrieval unit compiling list of

suitable candidates exhibiting functionality as requested by user/appliance).

The combination of Rekimoto and Kawamura fails to explicitly disclose that the

communication control device evaluates a combination of the candidates that includes

plural devices received by the attributed information receiving unit.

However, Chalon discloses a method of network device brokering that includes

brokers that compile lists of complementary services (col. 5, lines 3-5 and 50-58).

Moreover, the system allows for both "backward" and "forward" complementary

relationships to be tracked (col. 6, lines 64-67). Rekimoto, Kawamura and Chalon are

analogous art because all are from the field of sharing device functionality over a

network.

It would have been obvious to one skilled in the art at the time of the invention to

modify the teachings of the combination of Rekimoto and Kawamura with the teachings

of Chalon because this modification expands the functionality of the telephone

apparatus taught by Rekimoto to include a plurality of attached user devices to the device initiating the service discovery request, as well optimal combination of the discovered devices and devices attached to the initiating device.

For claim 12, the combination of Rekimoto and Kawamura discloses:

A communication control device according to claim 11, wherein the second determining unit evaluates all of the combinations of the candidates extracted by the second extraction unit and the communication device received by the request receiving unit, receives evaluation results at the communication device a1 from the communication device a1, and determines the optimal combination of communication devices based on sums of both evaluation results (Kawamura, [0073], lines 6-9, disclosure of function retrieval unit compiling list of suitable candidates exhibiting functionality as requested by user/appliance).

The combination of Rekimoto and Kawamura fails to explicitly disclose that the communication control device evaluates a combination of the candidates that includes plural devices received by the attributed information receiving unit. Rekimoto and Kawamura are analogous art and the reason for their combination is given in rejection to claim 1.

However, Chalon discloses a method of network device brokering that includes brokers that compile lists of complementary services (col. 5, lines 3-5 and 50-58). Moreover, the system allows for both "backward" and "forward" complementary relationships to be tracked (col. 6, lines 64-67). Rekimoto, Kawamura and Chalon are

analogous art because all are from the field of sharing device functionality over a network.

It would have been obvious to one skilled in the art at the time of the invention to modify the teachings of the combination of Rekimoto and Kawamura with the teachings of Chalon because this modification expands the functionality of the telephone apparatus taught by Rekimoto to include a plurality of attached user devices to the device initiating the service discovery request, as well optimal combination of the discovered devices and devices attached to the initiating device.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

    a. Schuster et al., US 6,681,252: a personal information device that is coupled to an IP telephony phone in order to provide end-to-end connectivity to another PID through a network..

    b. Weisman et al., US 2002/0112058: a device hosting framework for providing hosting for devices to expose their services over a network.

    c. Gu et al., US 2004/0260800: a device control model for discovering devices on a network that allows for a device to borrow functionality

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clayton R. Williams whose telephone number is 571-270-3801. The examiner can normally be reached on M-F (8 a.m. - 5 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nabil El-Hady can be reached on 571-272-3963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRW
03-11-08

/Nabil El-Hady/
Supervisory Patent Examiner, Art Unit 4152